



Age Proposal



Scope

- **Scope-**
 - *Post Birth Age*
- **Determination-**
 - Calculation using high level calculation:
 - Date of Event – Date of Birth
- **Format-**
 - Date of Birth CDE
 - Date of Event CDE
 - (Available) Event Type CDE
 - (Derived) Age CDE
 - Template CDEs
 - Example CDEs
- **Applicable Standards:** ANSI, CDC, CDISC, Census Bureau, CTEP, CTESS, FDA



Out of Scope

- **Determination of Age outside of :**
(Therefore in examples such as i.e. – Korea and Saudi Arabia the application would need to handle a different calculation for determination of age)
- **Age Ranges/Descriptions-**
 - Gestational
 - In-utero
 - Preterm Newborn
 - Neonate
 - Infant and Toddler
 - Child
 - Adolescent
 - Adult
 - Elderly/Geriatric
- **Age Range Categories -**
 - 0 - 11 Months
 - 0 - 52 Weeks
 - 0 - 28 Days
 - 0 = <1 Year
 - 1 - 4 Years
 - 5 - 9 Years
 - 10 - 14 Years
 - 15 - 19 Years
 - Etc.



Age Use Case Analysis

- Kinds of Age (how they are referenced):
 - Adult
 - Pediatric
 - Neonatal
 - Gestational
- Purpose of Age:
 - Age at time of Clinical Trial (registration/start/end)
 - Age at Birth (gestational)
 - Age at time of begin/end behavior
 - Age of Event
- Method of capturing/determining Age:
 - Date of Birth versus Current/Event Date calculation
 - Numeric Value and Unit (days, months, years. Etc.)



High Level Usage/Representation of Age



High Level Usage

- Not all external organizations store age (I.e. – HL7) therefore, their task is to exchange date of birth and comparing date. The receiving applications are responsible for calculating age. The following are concerned strictly with the dates:

»HL7v2&v3

»ANSI X12

»EDI

»CDUS



Excerpt from Specification Document (DRAFT)



DRAFT Specification Document

- **Background:** The majority of external standards do not represent, transmit, or store the concept of Age. HL7v2/3, ANSIX12, EDI, and CDUS are concerned with the components that could be used in an age calculation, which is specific to the server, application, and/or database. These groups focus on Date of Birth and Date of Event. The calculation of age is based on the simplistic equation of: Date of Event – Date of Birth. The specifics of the calculation differ in syntax between servers, applications, and databases. Microsoft provides instructions on the most common calculations. These instructions are referenced within the age data elements that compose the standard.

<http://search.microsoft.com/search/results.aspx?st=b&na=88&View=en-us&qu=calculating+age>



Major Components of Age

Patient Birth Date (CTEP)

Public ID: 793

YYYYMMDD

hhmmss.uuuu[+|-]ZZzz

Event Date/Time Value

Public ID: 2423385

YYYYMMDD

hhmmss.uuuu[+|-]ZZzz

Derived Person's
Age Value

*Public ID:
2423393*



TEMPLATE 1:

Event Type + Event Date Time

TEMPLATE [Event Type] Event Date Time Value

Event Type.
Public ID 2423393

* See PVs on Next Slide

Event Date Time Value
Public ID 2423385

Derivation Rule

*When there is the need for an event type to be tied To an Event Date, this template can be used to create Descriptive Derived Data Elements.

*Please see Descriptive CDE for an example on how the template is used!

Output Data Element

TEMPLATE
[Event Type]
Event Date Time Value



Event Type PVs

(BRIDG, HL7, AEs, CTEP, Breast Cancer Study)



Value	Value Meaning	Value Meaning Concept Codes	Value Meaning Description
Diagnostic Image	Diagnostic Image		An optically formed representation serving to identify a particular disease; characteristic.
Observation	Observation	C25598	Observation; watching something and taking note of what happens.
Procedure	Procedure	C25218	A particular course of action intended to achieve a result.
Encounter due to therapy	Encounter due to therapy	C1363945	No value exists.
Administered substance	Administered substance	CL301471	No value exists.
Admission	Admission	C25385	The condition of being allowed to enter.
Discharge	Discharge	C0012621	release
Transfer	Transfer	C48167	C48167: The act of moving something from one location to another.
Order	Order	C42680	A logical or comprehensible arrangement of separate elements.
Result	Outcome	C20200	Outcome; a phenomenon that follows and is caused by some previous phenomenon.
Death	DEATH	C28554	
Registration	Registration	C25646	Registration; the act of enrolling.
Start	Start	CL219258	No value exists.
Stop	Stop	C0723457	No value exists.
End	End	C25496	The point or place at which something terminates in time, space, or extent.
Diagnosis	DIAGNOSIS	C15220	DIAGNOSIS
Remission	Remission	C18246	An abatement in intensity or degree (as in the manifestations of a disease).
Progression	PROGRESSION	C25331	PROGRESSION
Randomization	RANDOMIZATION	C25196	
Surgical Procedure	Surgical Procedure	C15329	Used for operative procedures on organs, regions, or tissues in the treatment of diseases, including tissue section by lasers. It excludes transplantation, for which "transplantation" is used.

Reference Documents

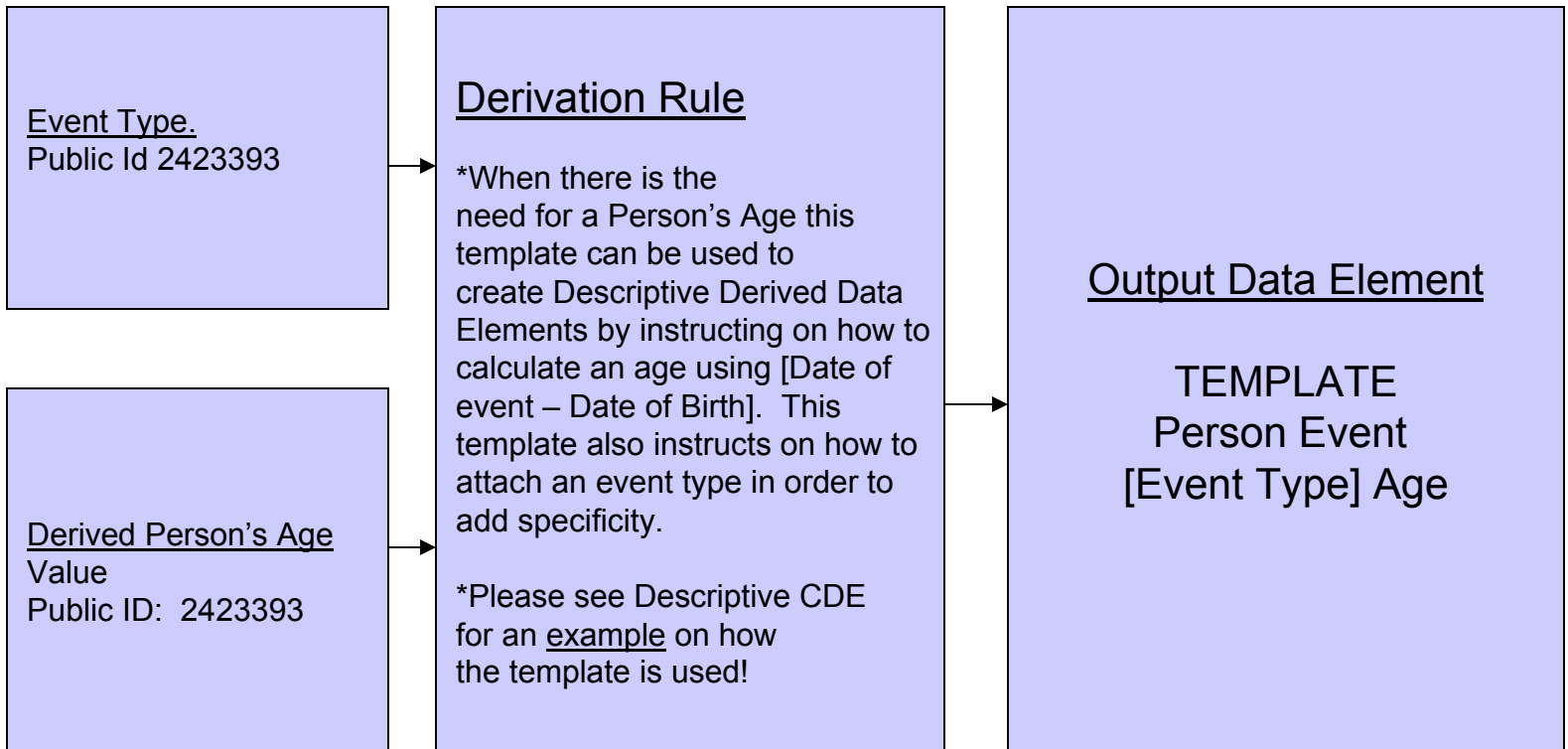


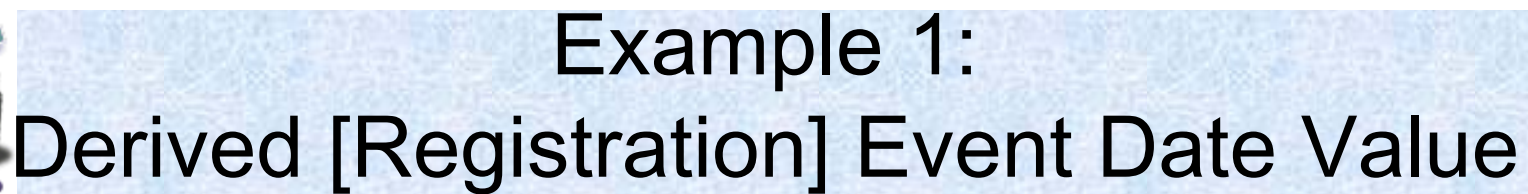


TEMPLATE 2:

Person + Event + Event Type + Age

TEMPLATE Person Event [Event Type] Age





Derived [Registration] Event Date Value

Reference Documents

Alternate Names

Name	Type	Context	Language
There are no alternate names for the selected CDE.			



Example 2:

Derived Person Event [Registration] Age



Public ID:	2423408
Version:	1.0
Long Name:	Derived Person Event Registration Age Value
Preferred Name:	DERIV_P_EVT_REG_AGE
Document Text:	Age of Person at the time of Registration.
Definition:	When there is the need for an Event Type = Registration and the Event Date are combined to be subtracted from Date of Birth as demonstrated in Derived Data Element 2423393. [Explanatory comment 1: Please reference the TEMPLATE CDE Public ID 2423403 for specific instructions on how to calculate age based upon Event Type Date - Date of Birth. [Explanatory Comment 2: servers, applications, and databases differ in the syntax used to to express and calculate age. Some of the most commonly used methods are expressed in the attached URL.]
Value Domain:	Person's Age Value
Data Element Concept:	Person Event Registration Age
Context:	caBIG
Workflow Status:	DRAFT NEW
Origin:	
Registration Status:	Candidate

Reference Documents

Document Name	Document Type	Document Text	Context	URL
Age of Person at the time of	LONG_NAME	Age of Person at the time of Registration.	caBIG	
Methods for Calculation of Age	REFERENCE	Common Methods used by servers, applications, and databases for calculating age based upon an event date - a date of birth.	caBIG	http://search.microsoft.com/search/results.aspx?st=b&na=88&View=en-us&qu=calculating+age

Alternate Names



Where to look in the Tree

CDE Browser - Microsoft Internet Explorer

File Edit View Favorites Tools Help

Search the Web Search Address http://cdebrowser.nci.nih.gov/CDEBrowser/ Go Links

NATIONAL CANCER INSTITUTE caDSR

Search Results

Results fewer than expected? [Check Search Preferences](#)

[\[Download Data Elements to Excel\]](#) [\[Download Data Elements as XML\]](#)

Sort order : (Default) Registration Status>>Workflow Status>>Long Name [Ascending]

[Add to CDE Cart](#) [Add to CDE compare list](#) [Compare CDEs](#) 1 - 7 of 7

<input type="checkbox"/>	Long Name	Document Text	Owned By	Used By Context	Registration Status	Workflow Status	Public ID	Version
<input type="checkbox"/>	Derived Person Event Registration Age Value	Age of Person at the time of Registration.	caBIG		Candidate	DRAFT NEW	2423408	1.0
<input type="checkbox"/>	Derived Person's Age Values	Person's Age	caBIG		Candidate	DRAFT NEW	2423393	1.0
<input type="checkbox"/>	Derived Registration Event Date Value	Date of Registration	caBIG		Candidate	DRAFT NEW	2423400	1.0
<input type="checkbox"/>	Event Date Time Value	Date/Time	caBIG		Candidate	DRAFT NEW	2423385	1.0
<input type="checkbox"/>	Event Type	Person Event Type	caBIG		Candidate	DRAFT NEW	2423305	1.0
	TEMPLATE Person	Age of Person at						

caDSR Contexts

- caBIG (NCI cancer Biomedical Informatics Grid)
 - Classifications
 - caTIES
 - Clinical Trial Management Systems
 - Commercial Partners
 - Data Standards
 - Candidate
 - Representation of Address
 - Representation of Age**
 - Compiled Components - Standard**
 - Examples - Age
 - Template - Age
 - Representation of Name
 - Representation of Organization
 - Proposed
 - Standard
 - Demonstration Applications
 - Genomic Identifiers